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033072-022.ST25

## SEQUENCE LISTING

RECEIVED

JUN 27 2002

TECH CENTER 1600/2900

<110> Barak, Larry S.  
Oakley, Robert H.  
Caron, Marc G.  
Laporte, Stephane A.  
Wilbanks, Alyson

<120> Constitutively Desensitized G Protein-Coupled Receptors

<130> 033072-022

<140> US 10/054,616

<141> 2002-01-22

<150> US 60/263,406

<151> 2001-01-23

<160> 12

<170> FastSEQ for Windows Version 4.0

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<211> 371

<212> PRT

<213> Homo sapiens

<400> 1

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Asp Pro Leu Leu Ala Arg Ala Glu Leu Ala Leu Ser Ile Val Phe
      35              40              45
Val Ala Val Ala Leu Ser Asn Gly Leu Val Leu Ala Ala Leu Ala Arg
      50              55              60
Arg Gly Arg Arg Gly His Trp Ala Pro Ile His Val Phe Ile Gly His
      65              70              75              80
Leu Cys Leu Ala Asp Leu Ala Val Ala Leu Phe Gln Val Leu Pro Gln
      85              90              95
Leu Ala Trp Lys Ala Thr Asp Arg Phe Arg Gly Pro Asp Ala Leu Cys
      100             105             110
Arg Ala Val Lys Tyr Leu Gln Met Val Gly Met Tyr Ala Ser Ser Tyr
      115             120             125
Met Ile Leu Ala Met Thr Leu Asp His His Arg Ala Ile Cys Arg Pro
      130             135             140
Met Leu Ala Tyr Arg His Gly Ser Gly Ala His Trp Asn Arg Pro Val
      145             150             155             160
Leu Val Ala Trp Ala Phe Ser Leu Leu Leu Ser Leu Pro Gln Leu Phe
      165             170             175
Ile Phe Ala Gln Arg Asn Val Glu Gly Gly Ser Gly Val Thr Asp Cys
      180             185             190
Trp Ala Cys Phe Ala Glu Pro Trp Gly Arg Arg Thr Tyr Val Thr Trp
      195             200             205
Ile Ala Leu Met Val Phe Val Ala Pro Thr Leu Gly Ile Ala Ala Cys
      210             215             220
Gln Val Leu Ile Phe Arg Glu Ile His Ala Ser Leu Val Pro Gly Pro

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225          230          235          240
Ser Glu Arg Pro Gly Gly Arg Arg Arg Gly Arg Arg Thr Gly Ser Pro
          245          250          255
Gly Glu Gly Ala His Val Ser Ala Ala Val Ala Lys Thr Val Arg Met
          260          265          270
Thr Leu Val Ile Val Val Val Tyr Val Leu Cys Trp Ala Pro Phe Phe
          275          280          285
Leu Val Gln Leu Trp Ala Ala Trp Asp Pro Glu Ala Pro Leu Glu Gly
          290          295          300
Ala Pro Phe Val Leu Leu Met Leu Leu Ala Ser Leu Asn Ser Cys Thr
305          310          315          320
Asn Pro Trp Ile Tyr Ala Ser Phe Ser Ser Ser Val Ser Ser Glu Leu
          325          330          335
Arg Ser Leu Leu Cys Cys Ala Arg Gly Arg Thr Pro Pro Ser Leu Gly
          340          345          350
Pro Gln Asp Glu Ser Cys Thr Thr Ala Ser Ser Ser Leu Ala Lys Asp
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Thr Ser Ser
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<210> 2
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<212> PRT
<213> Golden hamster

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Ser Asn Ser Thr Leu Pro Gln Leu Asp Val Thr Arg Ala Ile Ser Val
          35          40          45
Gly Leu Val Leu Gly Ala Phe Ile Leu Phe Ala Ile Val Gly Asn Ile
50          55          60
Leu Val Ile Leu Ser Val Ala Cys Asn Arg His Leu Arg Thr Pro Thr
65          70          75          80
Asn Tyr Phe Ile Val Asn Leu Ala Ile Ala Asp Leu Leu Leu Ser Phe
          85          90          95
Thr Val Leu Pro Phe Ser Ala Thr Leu Glu Val Leu Gly Tyr Trp Val
          100          105          110
Leu Gly Arg Ile Phe Cys Asp Ile Trp Ala Ala Val Asp Val Leu Cys
          115          120          125
Cys Thr Ala Ser Ile Leu Ser Leu Cys Ala Ile Ser Ile Asp Glu Tyr
130          135          140
Ile Gly Val Arg Tyr Ser Leu Gln Tyr Pro Thr Leu Val Thr Arg Arg
145          150          155          160
Lys Ala Ile Leu Ala Leu Leu Ser Val Trp Val Leu Ser Thr Val Ile
          165          170          175
Ser Ile Gly Pro Leu Leu Gly Trp Lys Glu Pro Ala Pro Asn Asp Asp
          180          185          190
Lys Glu Cys Gly Val Thr Glu Glu Pro Phe Tyr Ala Leu Phe Ser Ser
          195          200          205
Leu Gly Ser Phe Tyr Ile Pro Leu Ala Val Ile Leu Val Met Tyr Cys
210          215          220
Arg Val Tyr Ile Val Ala Lys Arg Thr Thr Lys Asn Leu Glu Ala Gly
225          230          235          240

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Val Met Lys Glu Met Ser Asn Ser Lys Glu Leu Thr Leu Arg Ile His  
                   245                  250                  255  
 Ser Lys Asn Phe His Glu Asp Thr Leu Ser Ser Thr Lys Ala Lys Gly  
                   260                  265                  270  
 His Asn Pro Arg Ser Ser Ile Ala Val Lys Leu Phe Lys Phe Ser Arg  
                   275                  280                  285  
 Glu Lys Lys Ala Ala Lys Thr Leu Gly Ile Val Val Gly Met Phe Ile  
                   290                  295                  300  
 Leu Cys Trp Leu Pro Phe Phe Ile Ala Leu Pro Leu Gly Ser Leu Phe  
 305                  310                  315                  320  
 Ser Thr Leu Lys Pro Pro Asp Ala Val Phe Lys Val Val Phe Trp Leu  
                   325                  330                  335  
 Gly Tyr Phe Asn Ser Cys Leu Asn Pro Ile Ile Tyr Pro Cys Ser Ser  
                   340                  345                  350  
 Lys Glu Phe Lys Arg Ala Phe Met Arg Ile Leu Gly Cys Gln Cys Arg  
                   355                  360                  365  
 Ser Gly Arg Arg Arg Arg Arg Arg Arg Arg Leu Gly Ala Cys Ala Tyr  
 370                  375                  380  
 Thr Tyr Arg Pro Trp Thr Arg Gly Gly Ser Leu Glu Arg Ser Gln Ser  
 385                  390                  395                  400  
 Arg Lys Asp Ser Leu Asp Asp Ser Gly Ser Cys Met Ser Gly Ser Gln  
                   405                  410                  415  
 Arg Thr Leu Pro Ser Ala Ser Pro Ser Pro Gly Tyr Leu Gly Arg Gly  
                   420                  425                  430  
 Ala Gln Pro Pro Leu Glu Leu Cys Ala Tyr Pro Glu Trp Lys Ser Gly  
                   435                  440                  445  
 Ala Leu Leu Ser Leu Pro Glu Pro Pro Gly Arg Arg Gly Arg Leu Asp  
 450                  455                  460  
 Ser Gly Pro Leu Phe Thr Phe Lys Leu Leu Gly Glu Pro Glu Ser Pro  
 465                  470                  475                  480  
 Gly Thr Glu Gly Asp Ala Ser Asn Gly Gly Cys Asp Ala Thr Thr Asp  
                   485                  490                  495  
 Leu Ala Asn Gly Gln Pro Gly Phe Lys Ser Asn Met Pro Leu Ala Pro  
                   500                  505                  510  
 Gly His Phe  
                   515

&lt;210&gt; 3

&lt;211&gt; 515

&lt;212&gt; PRT

&lt;213&gt; Golden hamster

&lt;400&gt; 3

Met Asn Pro Asp Leu Asp Thr Gly His Asn Thr Ser Ala Pro Ala Gln  
 1                  5                  10                  15  
 Trp Gly Glu Leu Lys Asp Ala Asn Phe Thr Gly Pro Asn Gln Thr Ser  
                   20                  25                  30  
 Ser Asn Ser Thr Leu Pro Gln Leu Asp Val Thr Arg Ala Ile Ser Val  
                   35                  40                  45  
 Gly Leu Val Leu Gly Ala Phe Ile Leu Phe Ala Ile Val Gly Asn Ile  
 50                  55                  60  
 Leu Val Ile Leu Ser Val Ala Cys Asn Arg His Leu Arg Thr Pro Thr  
 65                  70                  75                  80  
 Asn Tyr Phe Ile Val Asn Leu Ala Ile Ala Asp Leu Leu Leu Ser Phe  
                   85                  90                  95  
 Thr Val Leu Pro Phe Ser Ala Thr Leu Glu Val Leu Gly Tyr Trp Val

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      100      105      110
Leu Gly Arg Ile Phe Cys Asp Ile Trp Ala Ala Val Asp Val Leu Cys
      115      120      125
Cys Thr Ala Ser Ile Leu Ser Leu Cys Ala Ile Ser Ile Asp Ala Tyr
      130      135      140
Ile Gly Val Arg Tyr Ser Leu Gln Tyr Pro Thr Leu Val Thr Arg Arg
      145      150      155      160
Lys Ala Ile Leu Ala Leu Leu Ser Val Trp Val Leu Ser Thr Val Ile
      165      170      175
Ser Ile Gly Pro Leu Leu Gly Trp Lys Glu Pro Ala Pro Asn Asp Asp
      180      185      190
Lys Glu Cys Gly Val Thr Glu Glu Pro Phe Tyr Ala Leu Phe Ser Ser
      195      200      205
Leu Gly Ser Phe Tyr Ile Pro Leu Ala Val Ile Leu Val Met Tyr Cys
      210      215      220
Arg Val Tyr Ile Val Ala Lys Arg Thr Thr Lys Asn Leu Glu Ala Gly
      225      230      235      240
Val Met Lys Glu Met Ser Asn Ser Lys Glu Leu Thr Leu Arg Ile His
      245      250      255
Ser Lys Asn Phe His Glu Asp Thr Leu Ser Ser Thr Lys Ala Lys Gly
      260      265      270
His Asn Pro Arg Ser Ser Ile Ala Val Lys Leu Phe Lys Phe Ser Arg
      275      280      285
Glu Lys Lys Ala Ala Lys Thr Leu Gly Ile Val Val Gly Met Phe Ile
      290      295      300
Leu Cys Trp Leu Pro Phe Phe Ile Ala Leu Pro Leu Gly Ser Leu Phe
      305      310      315      320
Ser Thr Leu Lys Pro Pro Asp Ala Val Phe Lys Val Val Phe Trp Leu
      325      330      335
Gly Tyr Phe Asn Ser Cys Leu Asn Pro Ile Ile Tyr Pro Cys Ser Ser
      340      345      350
Lys Glu Phe Lys Arg Ala Phe Met Arg Ile Leu Gly Cys Gln Cys Arg
      355      360      365
Ser Gly Arg Arg Arg Arg Arg Arg Arg Arg Leu Gly Ala Cys Ala Tyr
      370      375      380
Thr Tyr Arg Pro Trp Thr Arg Gly Gly Ser Leu Glu Arg Ser Gln Ser
      385      390      395      400
Arg Lys Asp Ser Leu Asp Asp Ser Gly Ser Cys Met Ser Gly Ser Gln
      405      410      415
Arg Thr Leu Pro Ser Ala Ser Pro Ser Gly Tyr Leu Gly Arg Gly
      420      425      430
Ala Gln Pro Pro Leu Glu Leu Cys Ala Tyr Pro Glu Trp Lys Ser Gly
      435      440      445
Ala Leu Leu Ser Leu Pro Glu Pro Pro Gly Arg Arg Gly Arg Leu Asp
      450      455      460
Ser Gly Pro Leu Phe Thr Phe Lys Leu Leu Gly Glu Pro Glu Ser Pro
      465      470      475      480
Gly Thr Glu Gly Asp Ala Ser Asn Gly Gly Cys Asp Ala Thr Thr Asp
      485      490      495
Leu Ala Asn Gly Gln Pro Gly Phe Lys Ser Asn Met Pro Leu Ala Pro
      500      505      510
Gly His Phe
      515

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<210> 4  
<211> 515

&lt;212&gt; PRT

&lt;213&gt; Golden hamster

&lt;400&gt; 4

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 1          5          10          15
Trp Gly Glu Leu Lys Asp Ala Asn Phe Thr Gly Pro Asn Gln Thr Ser
      20          25          30
Ser Asn Ser Thr Leu Pro Gln Leu Asp Val Thr Arg Ala Ile Ser Val
      35          40          45
Gly Leu Val Leu Gly Ala Phe Ile Leu Phe Ala Ile Val Gly Asn Ile
      50          55          60
Leu Val Ile Leu Ser Val Ala Cys Asn Arg His Leu Arg Thr Pro Thr
      65          70          75          80
Asn Tyr Phe Ile Val Asn Leu Ala Ile Ala Asp Leu Leu Leu Ser Phe
      85          90          95
Thr Val Leu Pro Phe Ser Ala Thr Leu Glu Val Leu Gly Tyr Trp Val
      100          105          110
Leu Gly Arg Ile Phe Cys Asp Ile Trp Ala Ala Val Asp Val Leu Cys
      115          120          125
Cys Thr Ala Ser Ile Leu Ser Leu Cys Ala Ile Ser Ile Asp His Tyr
      130          135          140
Ile Gly Val Arg Tyr Ser Leu Gln Tyr Pro Thr Leu Val Thr Arg Arg
      145          150          155          160
Lys Ala Ile Leu Ala Leu Leu Ser Val Trp Val Leu Ser Thr Val Ile
      165          170          175
Ser Ile Gly Pro Leu Leu Gly Trp Lys Glu Pro Ala Pro Asn Asp Asp
      180          185          190
Lys Glu Cys Gly Val Thr Glu Glu Pro Phe Tyr Ala Leu Phe Ser Ser
      195          200          205
Leu Gly Ser Phe Tyr Ile Pro Leu Ala Val Ile Leu Val Met Tyr Cys
      210          215          220
Arg Val Tyr Ile Val Ala Lys Arg Thr Thr Lys Asn Leu Glu Ala Gly
      225          230          235          240
Val Met Lys Glu Met Ser Asn Ser Lys Glu Leu Thr Leu Arg Ile His
      245          250          255
Ser Lys Asn Phe His Glu Asp Thr Leu Ser Ser Thr Lys Ala Lys Gly
      260          265          270
His Asn Pro Arg Ser Ser Ile Ala Val Lys Leu Phe Lys Phe Ser Arg
      275          280          285
Glu Lys Lys Ala Ala Lys Thr Leu Gly Ile Val Val Gly Met Phe Ile
      290          295          300
Leu Cys Trp Leu Pro Phe Phe Ile Ala Leu Pro Leu Gly Ser Leu Phe
      305          310          315          320
Ser Thr Leu Lys Pro Pro Asp Ala Val Phe Lys Val Val Phe Trp Leu
      325          330          335
Gly Tyr Phe Asn Ser Cys Leu Asn Pro Ile Ile Tyr Pro Cys Ser Ser
      340          345          350
Lys Glu Phe Lys Arg Ala Phe Met Arg Ile Leu Gly Cys Gln Cys Arg
      355          360          365
Ser Gly Arg Arg Arg Arg Arg Arg Arg Arg Leu Gly Ala Cys Ala Tyr
      370          375          380
Thr Tyr Arg Pro Trp Thr Arg Gly Gly Ser Leu Glu Arg Ser Gln Ser
      385          390          395          400
Arg Lys Asp Ser Leu Asp Asp Ser Gly Ser Cys Met Ser Gly Ser Gln
      405          410          415
Arg Thr Leu Pro Ser Ala Ser Pro Ser Pro Gly Tyr Leu Gly Arg Gly

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420 425 430  
 Ala Gln Pro Pro Leu Glu Leu Cys Ala Tyr Pro Glu Trp Lys Ser Gly  
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 Ala Leu Leu Ser Leu Pro Glu Pro Pro Gly Arg Arg Gly Arg Leu Asp  
 450 455 460  
 Ser Gly Pro Leu Phe Thr Phe Lys Leu Leu Gly Glu Pro Glu Ser Pro  
 465 470 475 480  
 Gly Thr Glu Gly Asp Ala Ser Asn Gly Gly Cys Asp Ala Thr Thr Asp  
 485 490 495  
 Leu Ala Asn Gly Gln Pro Gly Phe Lys Ser Asn Met Pro Leu Ala Pro  
 500 505 510  
 Gly His Phe  
 515

<210> 5  
 <211> 515  
 <212> PRT  
 <213> Golden hamster

<400> 5  
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 1 5 10 15  
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 20 25 30  
 Ser Asn Ser Thr Leu Pro Gln Leu Asp Val Thr Arg Ala Ile Ser Val  
 35 40 45  
 Gly Leu Val Leu Gly Ala Phe Ile Leu Phe Ala Ile Val Gly Asn Ile  
 50 55 60  
 Leu Val Ile Leu Ser Val Ala Cys Asn Arg His Leu Arg Thr Pro Thr  
 65 70 75 80  
 Asn Tyr Phe Ile Val Asn Leu Ala Ile Ala Asp Leu Leu Ser Phe  
 85 90 95  
 Thr Val Leu Pro Phe Ser Ala Thr Leu Glu Val Leu Gly Tyr Trp Val  
 100 105 110  
 Leu Gly Arg Ile Phe Cys Asp Ile Trp Ala Ala Val Asp Val Leu Cys  
 115 120 125  
 Cys Thr Ala Ser Ile Leu Ser Leu Cys Ala Ile Ser Ile Asp Asn Tyr  
 130 135 140  
 Ile Gly Val Arg Tyr Ser Leu Gln Tyr Pro Thr Leu Val Thr Arg Arg  
 145 150 155 160  
 Lys Ala Ile Leu Ala Leu Leu Ser Val Trp Val Leu Ser Thr Val Ile  
 165 170 175  
 Ser Ile Gly Pro Leu Leu Gly Trp Lys Glu Pro Ala Pro Asn Asp Asp  
 180 185 190  
 Lys Glu Cys Gly Val Thr Glu Glu Pro Phe Tyr Ala Leu Phe Ser Ser  
 195 200 205  
 Leu Gly Ser Phe Tyr Ile Pro Leu Ala Val Ile Leu Val Met Tyr Cys  
 210 215 220  
 Arg Val Tyr Ile Val Ala Lys Arg Thr Thr Lys Asn Leu Glu Ala Gly  
 225 230 235 240  
 Val Met Lys Glu Met Ser Asn Ser Lys Glu Leu Thr Leu Arg Ile His  
 245 250 255  
 Ser Lys Asn Phe His Glu Asp Thr Leu Ser Ser Thr Lys Ala Lys Gly  
 260 265 270  
 His Asn Pro Arg Ser Ser Ile Ala Val Lys Leu Phe Lys Phe Ser Arg  
 275 280 285

Glu Lys Lys Ala Ala Lys Thr Leu Gly Ile Val Val Gly Met Phe Ile  
 290 295 300  
 Leu Cys Trp Leu Pro Phe Phe Ile Ala Leu Pro Leu Gly Ser Leu Phe  
 305 310 315 320  
 Ser Thr Leu Lys Pro Pro Asp Ala Val Phe Lys Val Val Phe Trp Leu  
 325 330 335  
 Gly Tyr Phe Asn Ser Cys Leu Asn Pro Ile Ile Tyr Pro Cys Ser Ser  
 340 345 350  
 Lys Glu Phe Lys Arg Ala Phe Met Arg Ile Leu Gly Cys Gln Cys Arg  
 355 360 365  
 Ser Gly Arg Arg Arg Arg Arg Arg Arg Arg Arg Leu Gly Ala Cys Ala Tyr  
 370 375 380  
 Thr Tyr Arg Pro Trp Thr Arg Gly Gly Ser Leu Glu Arg Ser Gln Ser  
 385 390 395 400  
 Arg Lys Asp Ser Leu Asp Asp Ser Gly Ser Cys Met Ser Gly Ser Gln  
 405 410 415  
 Arg Thr Leu Pro Ser Ala Ser Pro Ser Pro Gly Tyr Leu Gly Arg Gly  
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 Ala Gln Pro Pro Leu Glu Leu Cys Ala Tyr Pro Glu Trp Lys Ser Gly  
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 Ala Leu Leu Ser Leu Pro Glu Pro Pro Gly Arg Arg Gly Arg Leu Asp  
 450 455 460  
 Ser Gly Pro Leu Phe Thr Phe Lys Leu Leu Gly Glu Pro Glu Ser Pro  
 465 470 475 480  
 Gly Thr Glu Gly Asp Ala Ser Asn Gly Gly Cys Asp Ala Thr Thr Asp  
 485 490 495  
 Leu Ala Asn Gly Gln Pro Gly Phe Lys Ser Asn Met Pro Leu Ala Pro  
 500 505 510  
 Gly His Phe  
 515

<210> 6  
 <211> 359  
 <212> PRT  
 <213> Rattus norvegicus

<400> 6  
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 Thr Leu Tyr Ser Ile Ile Phe Val Val Gly Ile Phe Gly Asn Ser Leu  
 35 40 45  
 Val Val Ile Val Ile Tyr Phe Tyr Met Lys Leu Lys Thr Val Ala Ser  
 50 55 60  
 Val Phe Leu Leu Asn Leu Ala Leu Ala Asp Leu Cys Phe Leu Leu Thr  
 65 70 75 80  
 Cys Pro Leu Trp Ala Val Tyr Thr Ala Met Glu Tyr Arg Trp Pro Phe  
 85 90 95  
 Gly Asn His Leu Cys Lys Ile Ala Ser Ala Ser Val Thr Phe Asn Leu  
 100 105 110  
 Tyr Ala Ser Val Phe Leu Leu Thr Cys Leu Ser Ile Asp Arg Tyr Leu  
 115 120 125  
 Ala Ile Val His Pro Met Lys Ser Arg Leu Arg Arg Thr Met Leu Val  
 130 135 140  
 Ala Lys Val Thr Cys Ile Ile Ile Trp Leu Met Ala Gly Leu Ala Ser



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145          150          155          160
Leu Pro Ala Val Ile His Arg Asn Val Tyr Phe Ile Glu Asn Thr Asn
          165          170          175
Ile Thr Val Cys Ala Phe His Tyr Glu Ser Arg Asn Ser Thr Leu Pro
          180          185          190
Ile Gly Leu Gly Leu Thr Lys Asn Ile Leu Gly Phe Leu Phe Pro Phe
          195          200          205
Leu Ile Ile Leu Thr Ser Tyr Thr Leu Ile Trp Lys Ala Leu Lys Lys
          210          215          220
Ala Tyr Glu Ile Gln Lys Asn Lys Pro Arg Asn Asp Asp Ile Phe Arg
225          230          235          240
Ile Ile Met Ala Ile Val Leu Phe Phe Phe Phe Ser Trp Val Pro His
          245          250          255
Gln Ile Phe Thr Phe Leu Asp Val Leu Ile Gln Leu Gly Val Ile His
          260          265          270
Asp Cys Lys Ile Ser Asp Ile Val Asp Thr Ala Met Pro Ile Thr Ile
          275          280          285
Cys Ile Ala Tyr Phe Asn Asn Cys Leu Asn Pro Leu Phe Tyr Gly Phe
          290          295          300
Leu Gly Lys Lys Phe Lys Lys Tyr Phe Leu Gln Leu Leu Lys Tyr Ile
305          310          315          320
Pro Pro Lys Ala Lys Ser His Ser Ser Leu Ser Thr Lys Met Ser Thr
          325          330          335
Leu Ser Tyr Arg Pro Ser Asp Asn Met Ser Ser Ser Ala Lys Lys Pro
          340          345          350
Ala Ser Cys Phe Glu Val Glu
          355

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&lt;210&gt; 7

&lt;211&gt; 1116

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 7

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&lt;210&gt; 8

&lt;211&gt; 1548

&lt;212&gt; DNA

&lt;213&gt; Syrian golden hamster

&lt;400&gt; 8

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gacgttacca gggccatctc tgtgggcctg gtgctggcg ccttcacact ctttgccatt 180
gtgggcaaca tcctggatcat cctgtcagtg gcctgcaatc ggcacactgcg gacgcccacc 240
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ggtcgcctcg actctgggcc cctcttact ttcaagctct tgggagagcc ggagagccc 1440
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cagcccgggt tcaagagcaa catgcctctg gcacccgggc acttttag 1548

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&lt;210&gt; 9

&lt;211&gt; 1548

&lt;212&gt; DNA

&lt;213&gt; Syrian golden hamster

&lt;400&gt; 9

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